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December 19, 2014

Via Electronic Submission

Mr. Kevin M. O'Neill
Deputy Secretary
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549–1090

Re: Joint Industry Plan to Implement a Tick Size Pilot Program (File No. 4-657)

Dear Mr. O'Neill:

Two Sigma Securities, LLC ("TSS") appreciates the opportunity to offer the U.S. Securities and Exchange Commission ("Commission") its views on the proposed tick size pilot program.[1]

TSS strongly supports the concept of a data-driven approach to evaluate the effect of changes to equity market structure. We are concerned, however, that the pilot program as proposed has the potential to significantly increase trading costs and believe that the technological complexity of Test Group Three may not be justified by a cost-benefit analysis. As set forth below, we respectfully recommend that the proposed pilot program be revised in a manner that minimizes the risk of increased transaction costs for investors, in particular retail investors, and eliminates Test Group Three.

The Commission recognized in its original order that the proposed pilot program had to be "sufficiently limited so as to not cause excessive disruption to the market" and that the composition of the experimental group should be based on terms that "mitigate potential harm to investors in the form of increasing transaction costs."[2] Nevertheless, the current proposal will likely include a number of stocks that have average bid-offer spreads that are smaller than 5 cents. Their inclusion in the pilot will artificially widen spreads and result in excess trading costs to investors, including retail investors.

While the exact composition of the Test Groups will depend on the timing of the pilot, we estimate that approximately 75 percent of NMS common stocks meet the Commission's criteria for inclusion in the proposed pilot program, based on price, market capitalization and

[1] TSS is a market maker in over 8,000 securities and a member of the Financial Industry Regulatory Authority, Inc. and 10 U.S. securities exchanges. While TSS is affiliated with Two Sigma Investments, LLC and Two Sigma Advisers, LLC (each a registered investment adviser with the Commission), the views expressed herein represent only the opinions of TSS and not necessarily the views of any of TSS's affiliates.
[2] Order Directing the Exchanges and the Financial Industry Regulatory Authority to Submit a Tick Size Pilot Plan, 79 FR 36840, 36843 (June 30, 2014).

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daily trading volume.[3] Following the methodology laid out in the exchanges' proposed plan for constructing well-balanced groups of 400 stocks,[4] we estimate that each group will contain approximately 164 stocks that have a volume-weighted average spread of less than 5 cents. We estimate that the volume-weighted average spread in these symbols is approximately 2.5 cents. Applying an estimate of retail trading volume in these names,[5] we believe that the proposed pilot program would result in approximately $200 million in excess trading costs to retail investors annually across Test Groups Two and Three, assuming retail investor orders continue to receive price improvement at currently-prevailing rates.

TSS recommends that the pilot program only include stocks that trade with a weighted-average spread of 5 cents or more, and construct the experimental groups to have similar average spread characteristics. In our sampled universe, approximately 25 percent of NMS common stocks, or nearly 2,800 stocks, had weighted-average spreads of 5 cents or more, which represented roughly 5 percent of overall daily trading volume on those days. We believe this universe is large and diverse enough for a rigorous pilot to test the notion of widening tick size relative to spread. At the same time, we believe limiting the pilot to this universe should minimize the risk of increased transaction costs for investors.

Retail orders face further risk of losing access to price improvement in Test Groups Two and Three. In order to provide price improvement, any trading center handling stocks in those two groups must sign an attestation that "substantially all" orders that receive the minimum required price improvement did not "originate from a trading algorithm or any other computerized methodology".[6] It is unclear how a trading center receiving order flow from large numbers of natural persons can design surveillance programs that would allow them to confidently make this attestation. We would suggest that the definition be loosened to reflect the modern-day reality that ordinary investors, and those who trade on their behalf, are heavily reliant upon "computerized methodology".

With respect to Test Group Three, we are concerned about the potentially sweeping changes required to systems across a wide range of market centers. While Test Group One and Two should require relatively minor technological work (*e.g.*, such as updating product data to identify securities in each group, and accommodating a wider range of minimum pricing and

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[3] For this analysis, TSS used the SEC's general criteria for pilot securities (*i.e.*, market capitalization of $5 billion or less, an average daily trading volume of 1 million shares or less; and a share price of $2 per share or more). TSS evaluated the criteria on a random sample of 25 trading days between January 2013 and September 2014 to simulate a wide range of market conditions.

[4] *See* Exhibit A, Section V(B), Notice of Filing of Proposed National Market System Plan To Implement a Tick Size Pilot Program on a One-Year Pilot Basis, 79 FR 66423, 66436 (Nov. 7, 2014) [hereinafter, *Proposed Tick Size Pilot Plan*].

[5] The estimates were based on Rule 605 data from the most recent month for the applicable symbol, primarily September 2014, from eight of the largest wholesale market makers, including TSS.

[6] Exhibit A, Section I(DD), *Proposed Tick Size Pilot Plan, supra* note 4, 79 FR at 66434.

quoting increments), Test Group Three is likely to require significantly more changes. The trade-at prohibition will require carefully-implemented changes to order routing, internalization and matching engines, across all market centers, together with the necessary pre- and post-trade validation and surveillance mechanisms. Changes of this magnitude have not been undertaken since Regulation NMS was implemented in 2007. We believe these changes are substantially more complex and affect more systems than the recent implementation of Limit Up/Limit Down, which included several industry-wide, weekend tests and multiple delays. Thus, it would be reasonable to expect a substantially longer implementation cycle for this pilot.

We believe that the Commission should evaluate both the costs of these technology changes and the risk of market disruption. In contrast to the extensive nature of required changes for Test Group Three, stocks in this group would likely represent less than 4 percent of the average traded volume in the U.S. equity markets (based on an analysis of 400 randomly selected stocks meeting the above-noted criteria). It should also be noted that the technical complexity of implementing Test Group Three will likely introduce a bias into the data. We would anticipate that many market participants will avoid the technology and testing expense, and postpone adaptive behaviors to the new market structure until a significant percentage of the volume is included.

As a result, TSS believes that Test Group Three will likely not achieve enough incremental statistical value to justify the technology expense and the risks introduced. Furthermore, we would point out that a full study of the effects of the trade-at prohibition should not be restricted simply to small and mid-cap stocks, and should be examined in the context of other relevant variables, such as the cap on access fees under Regulation NMS. In order to avoid extensive delay to the entire study, we would propose that the pilot program be approved without Test Group Three. At the very least, more analysis of the technology costs required to implement a trade-at prohibition should be undertaken before committing to add Test Group Three to the experiment.

We would welcome the opportunity to discuss this letter and engage in further dialogue with the Commission on these topics. Please feel free to contact me at [redacted] with any questions.

Respectfully submitted,

S. Yates

Simon Yates
Chief Executive Officer
Two Sigma Securities, LLC